the packing segments form an outer cylindrical ring **5**, in which flow passages **6** of the packing segments terminate.

[0022] As shown in FIG. **2**, each packing segment **3** is constructed from separate, superimposed structured surfaces **7** of undulating shape. Here the undulations may be designed in such a way that they are of zigzag-shaped cross section, as shown in FIG. **4**, or they may consist of rounded undulations.

[0023] The parallel undulations of each structured surface **7** form valleys in turn forming the flow passages **6**, contiguous structured surfaces being twisted relative to one another and thereby extend at an angle, in particular at a right angle to one another, in such a way that the flow passages intersect one another between two structured surfaces, as can be seen from FIG. **2**.

[0024] The packing segments are each assembled from 3 to 150 preferably 5 to 25, superimposed structured surfaces. Furthermore, the structured packing in the rotor is assembled from 2 to 64 packing segments, as shown in FIG. **1**.

[0025] Alternatively, however, the structured packing of the rotor may also comprise coaxial structured packing rings that in turn are divided into individual circular ring segments, as shown in FIGS. **5** and **6**.

[0026] The structured surfaces **7** are composed either of a strip, woven fabric or knitted fabric of solid metal and/or plastic wires or glass fibers, the wires or fibers preferably having a diameter of 0.1 to 0.5 mm, preferably 0.15 to 0.2 mm. Alternatively, however, the structured surfaces **7** may also be formed from a metal or plastic mesh or lattice.

[0027] The structured surfaces **7** of a packing segment **3** are preferably spot-welded to one another by laser beams.

We claim:

1. An apparatus for mass transfer between a liquid and a gas inside a rotor having a packing and where

the liquid is introduced at a center of the rotor and driven outward through the packing by centrifugal force generated by rotation of the rotor, and

the gas surrounding the rotor is forced inward through the rotor by a pressure of the gas, counter to the liquid flow in the rotor,

the improvement wherein the packing inside the rotor is divided into individual packing segments that together form a circular disk, each circular ring segment being formed by at least one structured packing comprised of a plurality of superimposed woven, knitted, mesh or lattice structured surfaces composed of metal, in particular sheet-metal strips, or plastic or glass fibers, to which the axis of rotation of the rotor runs perpendicular.

2. The apparatus defined in claim **1**, wherein the structured surfaces are undulating with the undulations of each structured surface lying parallel to one another.

3. The apparatus defined in claim **2**, wherein the undulations of the structured surface are of zigzag-shaped cross section.

4. The apparatus defined in claim **2**, wherein the undulations of one structured surface extend at an angle to the undulations of an adjacent structured surface, so that intersecting flow passages exist between two structured surfaces.

5. The apparatus defined in claim **1**, wherein the structured surfaces are composed of metal and/or plastic wires or sheet-metal strips or glass fibers.

6. The apparatus defined in claim **5**, wherein the metal and/or plastic wires have a diameter of 0.1 to 0.5.

7. The apparatus defined in claim **1**, wherein the structured packing in the rotor is assembled from 2 to 64 packing segments.

8. The apparatus defined in claim **1**, the inner ends of the packing segments form an inner cylindrical, coaxial annular space from which the flow passages proceed and into which the liquid is supplied.

9. The apparatus defined in claim **1**, wherein outer ends of the packing segments form an outer cylindrical ring at which the flow passages of the packing segments terminate.

10. The apparatus defined in claim **1**, wherein the packing segments are assembled from three to one hundred and fifty, preferably five to twenty-five, superimposed structured surfaces.

11. The apparatus defined in claim **1**, wherein the structured surfaces of a packing segment are spot-welded to one another.

12. The apparatus defined in claim **1**, wherein the structured packing of the rotor comprises structured packing rings coaxial with one another that are divided into individual circular ring segments.

13. The apparatus defined in claim **1**, wherein the rotor comprises two circular spaced disks to which an axis of rotation of the rotor runs perpendicular and that form a space between them that is filled by the packing segments.

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